

# **Imagery Analysis Monthly Review**

December 1983

Secret

December 1983
Copy
11

### Sanitized Copy Approved for Release 2011/08/05 : CIA-RDP91T01115R000100020002-1

Warning Notice

Intelligence Sources or Methods Involved (WNINTEL)

National Security Information

Unauthorized Disclosure Subject to Criminal Sanctions

Dissemination Control	NOFORN (NF)	Not releasable to foreign nationals
Abbreviations	NOCONTRACT (NC)	Not releasable to contractors or contractor/consultants
	PROPIN (PR)	Caution—proprietary information involved
	ORCON (OC)	Dissemination and extraction of information controlled by originator
	REL	This information has been authorized for release to
	FGI	Foreign government information
	WN	WNINTEL—Intelligence sources or methods involved
	A microfiche copy of this document is available from OCR/DLB printed copies from CPAS/IMC Regular receipt of DDI reports in either microfiche or printed form can also be arranged through CPAS/IMC.	Declassify: OADR Derived from IPM  Abbreviations for compartmented codewords are: M - MORAY S - SPOKE
	This page is Confidential. Handle via COMINT Channels	

25X1 25X1 25X1



25X1

## **Imagery Analysis Monthly Review**

December 1983

Comments and queries on the contents of this publication are welcome. They should be directed to the analysts whose names and secure line extensions are listed in the table of contents.

(U)

The articles in this publication have been coordinated with other CIA components. (U)

Secret

IA MR 83-012C

25X1

				Secret	
					25X1
	Content	re.			
	Content	.3			
Page					
1	New Ilyu	shin Aircraft Expected (S)			
		A 1 1 0 11 11 11 11 TV			
		Analysis of activity at the IIy gests that the first prototype	ushin Experiment	ital Design Bureau (OKB)	sug-
		testing. (S	or a large, new a	nerare may soon begin mg	25X1
			]		25X1
					20/1
2	Major E	lements of Soviet SS-12/22 Briga	ide Sighted in F	ield Storage (S)	
		In June we observed major e	lements of an SS-	12/22 surface-to-surface n	nissile
		brigade in field storage about	t 6 kilometers eas	t of Yemilchino in the Sov	iet/iet
		Carpathian Military District	. (S		25 <b>X</b> 1
					25 <b>X</b> 1
4	Tyumon	Uighan Militanu Enginesia - Com			
7	1 yumen	Higher Military Engineering Com	imand School (S	)	
			w	e have identified two milita	<sub>ary</sub> 25X1
		installations at Tyumen in the	e Siberian Militai	ry District that constitute a	_
		er Military Engineering Cor	manu School.	S	25X1
					25 <b>X</b> 1
5	Soviets In	ncrease Operational Capability of	Arctic Merchan	t Fleet (U)	
		The Soviets are increasing the fleet by acquiring Finnish-bui	operational cap	ability of their Arctic merc	chant
		serve as icebreakers. (S	it, munipurpose	merchant snips that can at	.so 25 <b>X</b> 1
					25 <b>X</b> 1
					23/1
	-				
6	Soviets In	nstalling New Type of Catalytic	Cracking Units a	t Two Petroleum Refiner	ies (S)
		The Soviets are installing a no	our tume of cotalest	in annuluing contract to the	-
		The Soviets are installing a ne refinery and at a refinery at P	w type of catalyt	ic cracking unit at their M 00 kilometers southeast of	loscow
		Omsk. (S	, 20021		25X1
					25X1
					20/(1
				Secret	25 <b>X</b> 1

ecret		2
		2
	Leningrad Flood Control Dam Under Construction (U)	
	The Soviets have begun construction of a flood control dam designed to protect the greater Leningrad area from flood waters of the Gulf of Finland. (S	2
		2
	Cuban Military Bunker Construction Program Proceeds at Rapid Pace (S	2
	The first major Cuban military bunker construction program to be undertaken	
	since the mid-1960s is proceeding at a rapid pace. (S	2
		2
	Rail Line Under Construction in North Korea (S)	
	Rail Line Under Construction in North Korea (S)  The North Koreans are constructing a standard-gauge rail line that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang area. (S	
	The North Koreans are constructing a standard-gauge rail line that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang	
	The North Koreans are constructing a standard-gauge rail line that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang area. (S	2
	The North Koreans are constructing a standard-gauge rail line that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang area. (S  North Korea Expands Nonferrous Metals Industry (S)  North Korea is making a major effort to expand the production capacity of its nonferrous metals industry, to decrease dependence on aluminum imports and	2
	The North Koreans are constructing a standard-gauge rail line that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang area. (S  North Korea Expands Nonferrous Metals Industry (S)  North Korea is making a major effort to expand the production capacity of its nonferrous metals industry, to decrease dependence on aluminum imports and increase earnings from the export of other nonferrous metals. (S	2 2 2 2 2
	The North Koreans are constructing a standard-gauge rail line that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang area. (S  North Korea Expands Nonferrous Metals Industry (S)  North Korea is making a major effort to expand the production capacity of its nonferrous metals industry, to decrease dependence on aluminum imports and increase earnings from the export of other nonferrous metals. (S  India Developing Capability to Produce Submarines (S)  We believe that a ship construction hall being built at Mazagon Dock, Ltd. in Bombay will be used to construct submarines. (S	2 2 2
2 Secret	The North Koreans are constructing a standard-gauge rail line that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang area. (S  North Korea Expands Nonferrous Metals Industry (S)  North Korea is making a major effort to expand the production capacity of its nonferrous metals industry, to decrease dependence on aluminum imports and increase earnings from the export of other nonferrous metals. (S  India Developing Capability to Produce Submarines (S)  We believe that a ship construction hall being built at Mazagon Dock, Ltd. in	2 2 2

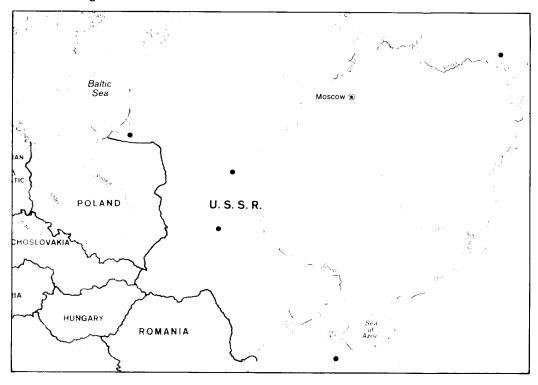
New Ilyushin Aircraft Expected (S)		
Analysis of activity at the Ilyushin Experimental Design Bureau (OKB) suggests that the first prototype of a large, new aircraft may soon begin flight- testing. The aircraft has not yet been seen on imagery, but it is probably one of two aircraft that have been described	In early 1981 Genrikh Vasilyevich Novozhilov, chief of the Ilyushin OKB, said his design bureau was developing a new transport aircraft—designated the IL-96—which was based on the design of the IL-86 wide-bodied Camber passenger aircraft. Open sources have described the IL-96 as a longrange derivative of the Camber employing a new wing and new, more powerful engines. Although one source has reported that an IL-96 prototype recently began flight-testing, there is no imagery evidence of this. The Il-92 has been described as another Camber derivative, but there is conflicting information as to whether it will use a new engine or the same engine as the IL-86. (S	25X1 25X1 25X1 25X1 25X1
September 1983 several large test articles (major airframe components) from Ilyushin aircraft have been placed in open storage, suggesting that the test rigs inside the dynamic test building of the OKB have been cleared. We believe the rigs were being prepared to test articles for a second prototype, which suggests that testing of the first prototype is nearly complete. This is consistent with the Ilyushin practice of building the first prototype for flighttesting and using a second for static testing. A	If they are successfully developed, both aircraft will probably join the Soviet long-range civil fleet as aircraft that are intended to be less costly to operate than the Classic and Camber. Both the Classic and Camber are much less fuel efficient and require significantly more maintenance when used over long routes than do similar Western aircraft now in service. (S	25X1 25X1 25X1
similar pattern of activity—the movement of test articles into open storage—preceded the initial rollout of the last four Ilyushin aircraft. (S		25X1 25X1
1	Secret	25 <b>X</b> 1 25 <b>X</b> 1

Secret	

### Soviets Expand SS-12/22 Brigade in Carpathian Military District (S)

District (S)		
In June, we observed major elements of an SS-12/22 surface-to-surface missile brigade in field storage about 6 kilometers east of Yemilchino in the Soviet Carpathian Military District. At the time this was the best look at a fully equipped SS-12/22 brigade since the late 1960s.	Recently the Soviets stated that they intend to deploy additional operational-tactical missiles—like the SS-12/22—into Eastern Europe in response to the introduction of Pershing II missiles. These deployments probably would affect some of the six SS-12/22 brigades located in the western USSR. The construction at Yemilchino, however, makes a move by this brigade unlikely, because we do not	25X1 25X1
	believe the Soviets would invest significant time and resources to expand and renovate a garrison for a unit they intend to relocate. Nevertheless, the deployment of SS-12/22s to Eastern Europe will be	
On coverage of June 1983 we identified 12 transporter-erector-launchers (TELs), four MAZ heavyduty cranes, 12 probable launch control vehicles,	a political decision, and depending on its scale, could affect any or all SS-12/22 units in the western USSR.	25 <b>X</b> 1
and about 150 other support vehicles. This number of TELs and support equipment was consistent with Intelligence Community estimates for this brigade at that time. On coverage of late October, however, the amount of equipment had increased. The brigade is now equipped with 18 operational TELs, three probable training TELS, at least 8 MAZ heavy-duty cranes, 18 launch control vehicles, and about 250 other support vehicles. This is the first confirmed sighting of an 18-TEL-equipped SS-12/22 brigade in the Soviet Union. Such an increase in the number of TELs was not unexpected and indicates that expansion of SS-12/22 brigades will probably parallel that which has occurred in SS-1 Scud tactical missile brigades, many of which have increased from 12 to 18 TELs. (S	This article is Secret	25X1 25X1 25X1
Apparently, the Soviets are storing the equipment for this brigade in the field because they are renovating and expanding its vehicle storage area in Yemilchino. This occasionally occurs when Soviet ground force units expand and renovate their garrisons. The construction which began in 1982 was not yet complete by October 1983. (s		25X1 25X1 25X1 25X1
Secret	2	25X1

#### Location of SS-12/22 Brigades in the Western USSR



### Eighteen SS-12/22 TELs in Field Storage, Yemilchino, USSR,

October 1983

25X1

3

Secret

	Secret		25 <b>X</b>
	Tyumen Higher Military Engineering Command School (S)		
	we have identified two military installations at Tyumen in the Siberian Military District that constitute a Higher Military Engineering Command School. These installations were previously believed to be garrisons for unrelated nondivisional engineer units. Graduates of the school are assigned to military engineering units	The school apparently receives some new Soviet engineering equipment for student familiarization before it is available to engineer units. For example, the Amphibious Bridging System (Wheeled) was on display at Tyumen in early 1978 but was not seen in an engineer unit until 1979. The tracked version of the same system was at Tyumen in 1981, again before it was issued to engineer units.	25X <sup>2</sup>
	throughout the USSR and the groups of forces.	(S	25X1
Г	(S	This article is Secret	25X <sup>2</sup> 25X 25A
	the school's second installation, southeast of the city, contains		25 <b>X</b> ′
	the troop billets and equipment park for a mainte- nance battalion that supports the school de- scription corresponds with Tyumen Army Barracks AL-2, which contains a barracks and administra- tion area, a training area, and a large, open vehicle		25X′
	park with equipment stored for several engineer regiments or brigades. (S		25X <sup>-</sup>
	Secret	4	

Secret	
	25 <b>X</b> ′

## Soviets Increase Operational Capability of Arctic Merchant Fleet (U)

The Soviets are increasing the operational capability of their Arctic merchant fleet by acquiring Finnish-built, multipurpose merchant ships that can also serve as icebreakers. Up to now Soviet merchant ships did not have an ice-breaking capability, and their operations in Arctic waters without icebreaker assistance were normally restricted to the months of June through September. The new ships have been designated the SA-15 class by the Soviets, and they are the first merchant ships ever designed for service in Arctic regions of the Soviet Union. The Soviets have contracted for a total of 14 SA-15-class vessels, and open sources indicate that five had been received by September 1983. Open sources also indicate that the initial SA-15 received by the Soviets conducted sea trials in March 1983. To date only one SA-15-class vessel has been seen on imagery. This vessel was identified in July 1983 at Leningrad. (S

The SA-15-class ships are 20,000-dead-weight-ton vessels with two decks and five cargo bays designed

to accommodate both dry bulk products and general cargo goods. Each ship is equipped with three 20-ton-capacity deck cranes and one 40-ton-capacity twin deck crane. In addition, a stern ramp can be used for loading and unloading vehicles and other mobile cargo, and a roll-on/roll-off (Ro/Ro) deck can accommodate vehicles up to 4.3 meters high and 5 meters wide. Open sources have reported that the SA-15-class ships can break level ice about 3 meters thick and that each will be equipped with two 38-ton-capacity air-cushioned vehicles that can be used to transfer cargo to and from transshipment points in areas where no port facilities are available. (8

These SA-15-class ships will enhance Soviet capabilities to support oil and gas projects in regions of West Siberia. Their Ro/Ro capability also makes them well-suited for shipping military vehicles and 25X1 equipment. (U)

vessels with two decks and five cargo bays designed This article is Secret	25%
	25X

Secret

### Soviets Installing New Type of Catalytic Cracking Units at Two Petroleum Refineries (S)

I wo Petroleum Reimeries (8)		
The Soviets are installing a new type of catalytic cracking unit at their Moscow refinery and at a refinery at Pavlodar, about 400 kilometers south-	production peaks and begins to decline in the late 1980s as expected by CIA. (S	25 <b>X</b> 1
east of Omsk. <sup>1</sup> In late September 1983, the unit in the Moscow refinery appeared ready to begin start-up operations. In July 1983 the unit in the Pavlodar refinery appeared to be about four to six months away from start-up. (S	If the design of the catalytic cracking units being installed at Moscow and Pavlodar is unsuccessful and the Soviets continue to substitute gas and coal for heavy fuel oils in their power plants, they will probably have to purchase catalytic cracking technology—and at least some of the more sophisticated equipment for the units—from the West. As many as 13 catalytic cracking units—which each	25 <b>X</b> 1
convert heavy oils into lighter products such as gasoline and diesel fuels. These new units represent the Soviets' first attempt to build catalytic cracking	take about 2 years to build—would be needed if the Soviets expect to reduce the amount of heavy oil	
units since they built one at the Omsk refinery in 1975. the Omsk unit did not perform well and had to be redesigned. A	being burned in their power plants by 260,000 barrels per day by the end of 1985 as planned.	25X1 25X1
crane is frequently observed at the Omsk unit, which suggests that the Soviets continue to have problems with it. Because the new-type catalytic	This article is Secret	25 <b>X</b> 1
cracking units that are under construction at Moscow and Pavlodar do not resemble the Omsk unit, the Soviets may have discarded the Omsk design. Other catalytic cracking units were built by the Soviets in the 1950s and early 1960s, but these		25 <b>X</b> 1
designs have also apparently been discarded. (S		25X1
According to statements in the Soviet press, both the 10th and the 11th Five-Year Plans contained goals to increase the cracking capacity of petroleum refineries and to reduce the wasteful burning of heavy fuel oils in power plants by substituting gas and coal. The Soviets have begun to convert some of their power plants to burn gas or coal instead of heavy oils, which increases the amount of heavy oils available for processing in the refineries. By increasing the cracking capacity of their petroleum refineries to process heavy oils, the Soviets could increase production of gasoline and diesel fuel		•
without correspondingly increasing crude oil production. This will be important if Soviet crude oil		
		25X1
Secret	6	
		25 <b>X</b> 1

		25X1
Leningrad Flood Control Dam Under Construction (U)		
The Soviets have begun construction of a flood control dam 25 kilometers (km) in length that is designed to protect the greater Leningrad area from flood waters of the Gulf of Finland. Leningrad has suffered from frequent flooding that occurs as a result of storms in the Baltic Sea. The dam, which the Soviets refer to as a sea shield, will extend from Gorskaya on the north shore of the gulf, across Kotlin Island, to Bolshaya Izhor, on the south		25X1
Although planning for the sea shield project began in the mid-1960s, actual construction did not start until sometime between July 1979 and June 1980. By mid-August 1983, about 8.5 km of earth and stone embankments were under construction extending from both shores and east and south from Kotlin Island. Road- and rail-served construction support bases had been built at Gorskaya and Bolshaya Izhora, and a third construction support base had been constructed on Kotlin Island.		25X1
(S   Sland.		25 <b>X</b> 1
If completed as planned, the sea shield will be 35 meters wide and 8 meters above the mean water line. A six-lane highway will be constructed across the top of the dam and two large gates, which will be closed when flood waters threaten, will be constructed across shipping channels. The Soviets have indicated that this construction project is expected to cost at least a half-billion rubles and take about ten years to complete. (S		25X1 25X1
The British have just completed construction of a much smaller flood control barrier across the Thames River near London. England's barrier cost about one billion dollars (just over a half-billion rubles) but is less than one km long and cannot serve as a bridge crossing. (U)		051/4
This article is Secret		25X1
7	Secret	25 <b>X</b> 1

Secret		25 <b>X</b> 1
Cuban Military Bunker Construction Program Proceeds at Rapid Pace (S		25 <b>X</b> 1
The first major Cuban military bunker construction program to be undertaken since the mid-1960s is proceeding at a rapid pace. At least 260 bunkers have been observed in various stages of construction since the first one was seen in July 1982.  Nearly one-half (117) have been identified since March 1983. Bunkers have been observed under construction at 35 sites, including army bases, air defense installations, naval weapons storage areas, ammunition plants, military schools, and in remote, undeveloped areas. When the construction program is completed, the bunkers will greatly improve Cuba's ability to protect its military material from air attack. Cuba also has several command and control bunker complexes under construction or recently completed, including a large one south of Havana. No comparable construction program for personnel bunkers has been observed under way in Cuba. (§	of the bunkers are at known Cuban facilities. Those that are not are located far from the installations housing the Soviet brigade, whose forces might be used to provide security for any particularly sensitive advanced weapon system sent to Cuba.  (S	25X1 25X1 25X1
The primary function of the bunkers appears to be materiel and munitions storage. Their size will accommodate virtually any piece of military equipment currently in the Cuban inventory. The bunkers with lengths varying from 15 to 45 meters. All are drivein or drive-through, are built of prefabricated concrete sections, and are earth-covered. The number of bunkers at individual sites ranges from one to 35. (S		25X 25X1
Most of the bunkers are large enough to store an SS-20 transporter-erector-launcher with missile but there are several indications that they are not intended for that purpose. None of the complexes is large enough to house an entire SS-20 regiment. Most of the complexes are unsecured; the rest are only fenced. There is no evidence of efforts to camouflage or conceal the facilities. Finally, most		

8

Secret	_
	25X <sup>2</sup>

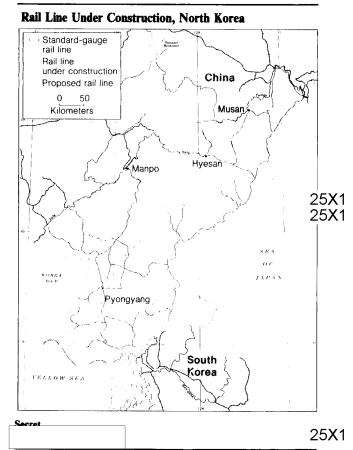
### Rail Line Under Construction in North Korea (S)

The North Koreans are constructing a standard-gauge rail line about 280 kilometers (km) long that will eventually connect the cities of Musan, Hyesan, and Manpo and provide an alternate rail link between the northeast region of the country and the Pyongyang area. Militarily, this new rail line will be less vulnerable to interdiction by South Korea because it is both away from the coast and adjacent to the border with China. Economically, this new rail line will probably support the development of hydroelectric power along the Yalu River and of new industries including lumbering and mining in the north-central section of the country. (

Based on the pace of construction, the rail line will not be complete for several years, but as of August 1983, a total of 92 km of roadbed construction had been observed an imagery. A 20-km segment of roadbed construction extended northeast from the vicinity of Manpo, and 72 km of roadbed construction extended west from Hyesan along the south bank of the Yalu River. We believe that construction of this segment of the rail line will continue to parallel the Yalu River until it reaches the area where the river turns north. At this point the rail line will probably continue west toward Manpo. Because of the mountainous terrain, numerous tunnels and bridges will have to be constructed.

We have been unable to determine the status of construction along the rail segment that will link Hyesan and Musan because there has been no imagery of this area in over a year. When last observed in September 1982, less than a 1-km segment of ground scarring for the roadbed extended\_northeast\_from Hyesan. (8)

This article is Secret



25X1 25X1

25X1

25X1

Secret

25X1

25X1

25X1

### North Korea Expands Nonferrous Metals Industry (S)

North Korea is making a major effort to expand the production capacity of its nonferrous metals industry, to decrease dependence on aluminum imports and to increase earnings from the export of other nonferrous metals. In the early 1970s North Korea had a copper plant, a copper and zinc plant, and a zinc and lead plant and was a net exporter of all three metals. In the mid-1970s construction began on two additional nonferrous metals plants, a Soviet-equipped aluminum plant at Pukchang, and a Japanese-equipped zinc plant at Tanchon. Construction slowed during the late 1970s, probably due to North Korea's major economic problems. The nonferrous metals program was accelerated in the early 1980s when work resumed at Pukchang and Tanchon and construction began on a Japanese-supplied zinc recovery plant at Nampo, the Chongiu Copper/Lead plant, the Unhung Copper Plant, and the Komdok Copper/Lead/Zinc Plant. (S

The Pukchang Aluminum Plant was nearing completion in August 1983. It will be the North Koreans' only aluminum plant and will enable them to lower their dependence on imported aluminum which they currently buy on the world market. A comparison of the main aluminum production building at Pukchang with similar Soviet buildings indicates that it will have an annual production capacity of 20,000 metric tons, and a North Korean defector has reported that the plant will have this production capacity. Alumina, the raw material for the aluminum plant, may be supplied by what appears to be an alumina plant that is in a mid-tolate stage of construction 37 kilometers southwest of Pukchang. (S

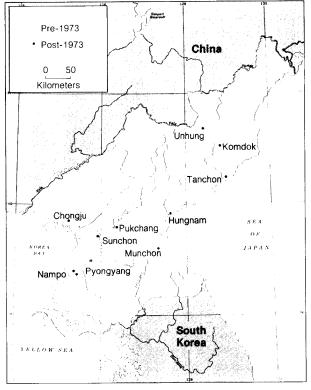
The two new Japanese-supplied zinc plants at Tanchon and Nampo, which were in a late stage of construction in August 1983, will enable the North Koreans to refine a purer zinc and to recover larger amounts of precious metals, such as silver, that are often associated with zinc. Special intelligence indicates that the Nampo Zinc Recovery Plant was

designed to recover 8,400 tons of zinc and 36 tons of silver per year from the residue of the existing Nampo Copper and Zinc Plant, and that the annual zinc production capacity of the Tanchon Zinc Plant will be 50,000 tons. (S

The Chongiu plant began operations in August 1982, and the Unhung and Komdok plants should be complete by 1985. We have not yet determined their production capacities. (S

This article is Secret

#### Location of Nonferrous Metal Plants in North Korea



Secret

Secret

25X1

25X1



Secret			

### 25X1

### India Developing Capability to Produce Submarines (S)

Produce Submarmes (S)		
We believe that a ship construction hall being built at Mazagon Dock, Ltd., in Bombay will be used to construct submarines. Completion of the construction hall will give the Indians their initial submarine construction capability. India has a growing surface ship construction capability but has purchased most of its surface combatants and all of its eight submarines from the Soviet Union. (S	The probable construction hall at Mazagon Dock is being built on an expanded mole that lies between the inclined building ways and a fitting-out basin. Foundation work for the construction hall began in August 1982. Since August 1983, wall-supporting columns and arched-roof trusses have been erected for a main building that is about 99 meters long, 27 meters wide, 16 meters high, and has a 54-meterlong annex that may be used for component fabrication or subassembly. Since the TR 1500 is 61	25X1 25X1
The first submarines built at Mazagon Dock will probably be West German-designed TR 1500 coastal submarines. In 1981 India reached an agreement with the West German shipbuilding firm Howaldtswerke Deutsche Werft (HDW) for the construction of up to six of these diesel-electric subma-	meters long it appears likely that the construction hall will have sufficient capacity to build at least two TR 1500 submarines simultaneously. Excavation within the mole indicates a launch basin is being built for vessels that will be produced within the construc-	25X1
rines. The first two units are being built in West Germany, with delivery of the first unit scheduled for late 1984. The West Germans have licensed India to build two more units with materials and technical supervision to be provided by HDW. India may exercise an option to build the last two of the six units they contracted for under license. The West German press has identified Mazagon Dock as the construction site for these submarines. The agreement with HDW also includes the transfer of technology that should permit India to continue building submarines after the contract	India has produced surface combatants at Mazagon Dock since 1966. The first ships produced here were Leander-class frigates built under license from Great Britain. In 1978 the yard began construction of the Godavari-class frigate, an indigenously designed variant of the Leander-class. Despite its efforts to produce naval vessels indigenously and the consequent agreement with HDW, India continues to rely on the Soviet Union as its principal source of naval combatants. Since 1970, the Indian	25X1
expires. (S  The agreement with HDW makes India one of the few Third World nations (along with Argentina, China, North Korea, and Yugoslavia) to develop or acquire the sophisticated industrial technology required for modern submarine construction. Suc-	Navy has acquired three newly constructed modified Kashin-class guided-missile destroyers, three Nanuchka-class guided-missile patrol boats, six Natya-class fleet minesweepers, and 16 Osa I and II missile craft from the Soviet Union. In addition, the Indians reportedly are continuing negotiations with the Soviets on additional purchases of naval	25X1
cessful production of the TR 1500 will provide the	ships. (S	25X1
Indian Navy with a modern submarine to augment its force of older F-class submarines. In addition, the experience gained in building the relatively simple TR 1500 should enable India to build larger,	This article is Secret	25X1
ocean-going submarines in the future. (S		25X1 25X1

25X1

12



Secret	

### **New OIA Publications**

The following reports have been published by the Office of Imagery Analysis since the last issue of the Imagery Analysis Monthly Review.

Imagery	Researc	ch Papers	
	1.	2 over spiriture of 210 ya o over the 2 document beginned, 1700 oz	25X1 25X1
	2.		25X1 25X1
	3.		25X1 25X1
Imagery	Analysi	s Reports	
	1.	IA 83-10120, El Salvador: Government Military Success in the Guazapa Volcano Aera (Secret	25X1
	2.		20/1
	3.	IA 83-10127. Nicaragua-El Salvador: Potosi Probable Waterborne Infiltration Point (Secret	25X1
Imagery	Analysi	s Memorandums	
	1.		25 <b>X</b> 1
			25X1
	3.	IAM 83-10124, BL-10 Land-Attack Cruise Missile Launch Indicators at Kapustin Yar Missile Test Center (Top Secret Codeword	25X1 25X1
	4.	IAM 83-10125, Radar-Equipped Target Barge Possibly Associated with 25 SS-N-22 Antiship Cruise Missile Test Program (Top Secret Codeword 2	5X1

### **Secret**